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ABSTRACT

This study investigated how Finnish-Swedish bilingual 10-year-olds (n=26) produce self-repairs in a narrative discourse, in comparison with monolingual agemates (n=10), in three respects: (1) types of repair; (2) number of repairs; and (3) the structural organization of repair. Altogether, 36 Finnish and 36 Swedish narratives were examined. The narratives were the retelling of a story based on a silent cartoon. The narratives were divided into six categories according to language and the model of instruction the child participated in (instruction in Finnish, in Swedish, or mostly in Swedish). Results show no differences between the groups in two of the investigated aspects: all informants used the same types of repair and all conformed to the main interruption rule. The bilingual children had a higher proportion of error repairs and covert repairs in their weaker language. (MSE)

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SELF-REPAIR IN BILINGUAL CHILDREN: A STUDY OF FINNISH-SWEDISH SCHOOLCHILDREN'S SELF-REPAIRS IN NARRATIVE DISCOURSE

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Abstract

The aim of the present study was to describe how Finnish-Swedish bilingual schoolchildren produce self-repairs in a narrative discourse compared to monolingual agemates in three respects: 1) the types of repair, 2) the number of repairs and 3) the structural organization of repair. Totally 72 narratives were investigated, 36 in Finnish and 36 in Swedish. The narratives were divided into 6 categories according to a) the language and b) the model of tuition the children participated in. The results, which should be interpreted as preliminary due to the size of the groups, show, that there are no major differences between the groups in two of the investigated aspects. All the informants use the same types of repair and they all conform to the Main Interruption Rule, which is the aspect of structural organization studied. The two bilingual groups had a higher proportion of error repairs and covert repairs in their weaker language.

Key words: bilingual proficiency, self-repair, discourse analysis, pragmatics, language development.

1. Background

The model of language proficiency, which has been the theoretical base in designing the project Bilingualism at School (see Viberg ms. 1990) has three main components:

1) knowledge of the language system, i.e. a) basic knowledge of the sound system, the lexicon and the grammar of the language and knowledge of how to use the language in interaction with others that native speakers have in common and b) expanded knowledge on different parts of language that varies from individual to individual. The basic knowledge of the sound system of a language includes knowledge of the phonematic contrasts in that language, the expanded knowledge of the sound system the relationship between pronunciation and spelling which is clearly a knowledge that all speakers do not have access to.

2) Language skills such as listening and speaking (spoken language) and reading and writing (written language) and

3) control of language.

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While the first component of language proficiency has to do with what we have learnt of a language, what we know of it, the control of language has to do with how we use this knowledge. We may e.g. know what a word means when we hear it (passive vocabulary - low grade of control) but we may not be able to use it ourselves (active vocabulary - high grade of control). Other examples of the control component of language proficiency are fluency, automatization and reading and speaking rate (cf. Viberg 1988 and forthcoming for a more detailed description of the model).

The topic of this paper also has to do with the control component of language proficiency. Self-repair, defined as the substitution of an element in speech flow with another element and/or an overt sign of trouble (see below in 2.2.2. about the use of editing terms and covert repair) by the speaker has so far mostly been studied in monolingual children and adults by psycholinguists (e.g. Karmiloff-Smith 1986; Levelt 1983; 1989) and ethnometodologists (e.g. Schegloff, Jefferson & Sacks 1977; Schegloff 1987). Within the fields of classroom research and second- and foreign-language acquisition there is a growing interest in studying the use of repair (e.g. Kasper 1985; Mazeland 1986; Salo-Lee 1987; Juvonen 1988; 1989 and van Lier 1988), but self-repair has not been studied in bilinguals to any larger extent. In a project financed by the ESF, Second Language Acquisition by Adult Immigrants, self-repair is discussed as intraindividual feedback in a narrow sense, although the topic of self-repair did not receive emphasis in the study reported in Allwood (ed. 1988). In the present paper, a pilot study of Finnish-Swedish bilingual school-children's self-repairs in a story retelling task, in both Finnish and Swedish is reported on.

2. The Pilot Study

2.1. The Data

The data analyzed in this study consist of a retelling of a story on a silent cartoon by 26 10-year old Finnish-Swedish bilingual schoolchildren in both languages and 10 monolingual agemates in Finnish and Swedish, respectively. All the bilingual subjects, as well as the Swedish controls, were born in Sweden and are resident in the Stockholm area. The Finnish controls are resident in the municipality of Vantaa. Twenty of the bilingual children attend a Finnish Home-Language Class, where most of the instruction in grades 1–6 is given in Finnish. Six of them attend an Ordinary Swedish

Class with an estimate of 2 hours of Home-Language Instruction weekly. All the bilingual informants report Finnish as the language of their homes.

The story was retold by the children in an interview with a native speaker. What has been analyzed in this study is a narrative monologue, i.e. the story as retold by the children. Answers to follow-up questions have not been analyzed as part of the narrative.

2.2. The What and How of Repair

All speakers, native or non-native, produce errors. The errors, as manifested in speakers self-repairs, may concern any aspect of the speakers performance. What is repaired (type of repair) and how it is repaired (the structural organization of repair) in different social contexts has been thoroughly studied in monolinguals by several scholars. I have adopted much of what follows from Levelt. The scope of this paper does not allow an exhaustive account of self-repair. For a more detailed account of the structural organization of self-repair, cf. Schegloff et al. (1977); Levelt (1983 and 1989 and references therein); for types of repair cf. Levelt (1983, 1989).

2.2.1. Types of Repair

As already pointed out above, everything in the speech flow is in principle repairable, from prosodic features to change of syntactic construction to change of perspective. In this section, I will give examples of the different types of repair identified in the data. The characteristics of the types I owe to Levelt (1983).

The first type of repair has to do with whether the speaker wants to express his or her thoughts at that particular moment. This is called a D-repair, the D standing for Different, i.e. the original utterance is replaced with a different one:

D-REPAIR: Do I want to say this now?
In my data this type of repair has to do with the chronological ordering of the events in the story as is seen from example 1. In the transcription, '/' indicates a short pause, 'hhh' an audible outhaling.

Example 1: D-repair in Finnish

→ ja hhh sitte kus sem piti /
sit se potkas sitã jalkaan /
→ sit kus sem piti ...
→ and hhh then when he was about to /
then he kicked him in the foot /
→ then when he was about to ...

In the first line of the transcipt, indicated by an arrow, the pupil starts to tell about an event but interrupts himself, retells another event and shows the listener by restarting in the last line, that this event should be understood as having happened before the one that was interrupted and restarted on. According to Levelt (1983) speakers hardly ever produce misleading information about how a repair should be related to what was originally uttered. Example 1 is a clear case in point: there is no other way to interpret it as a listener.

The second type of repair, called A-repair for Appropriateness, includes repairs for the sake of clarity. Do I want to say it in this way or should I be more specific?

A-REPAIR: Do I want to say it in this way?
Example 2 is a typical example of this kind of repair.

Example 2: A-repair in Finnish
ja sit se anto / se mies anto ...
and then he gave / the man gave ...

The repaired item 'se', 'he', is ambiguous between two male characters in the cartoon and potentially even between the male characters and a female character appearing in the cartoon - Finnish does not make a difference between the sexes in the pronoun system so 'se' here can refer to both males and females.

The third type of repair identified is the error repair or E-repair.

E-REPAIR: Am I making an error?
Example 3 is an example of a repair of a morphological error, other common types are phonetic, lexical and syntactic.

Example 3: E-repair in Swedish

kõpte ballonger å gedde ti barnet /
→ gav ti barnet

bought balloons and gived to the child /
→ gave to the child

D-repair, A-repair and E-repair are all examples of overt repairs, where the listener can identify the source of the trouble and relate the repair to the original utterance in a fairly straightforward way. Besides overt repairs, speakers often make covert repairs, i.e. repairs where it is not clear as to what the trouble is, but which can be identified by listeners with the help of our knowledge of the structural organization of self-repair.

2.2.2. The Structural Organization of Self-repair

According to Levelt (1983, 1989) the speaker should stop the speech flow immediately upon detecting trouble (The Main Interruption Rule). There is one exception to this rule: words that are not the source of the trouble and are themselves correct tend to be completed. The interruption of the speechflow is in most cases accopanied by an editing expression (Levelt 1983, 1989) or a minimal repair initiator (a glottal stop; cf. Schegloff 1987) which makes it possible for the co-conversationalist(s) and the analyst to identify the repair, although, as pointed out above, it is not always clear what the trouble is. Another type of covert repair is that of repetition of one or more lexical items. The function of covert self-repair in a discourse goes beyond the topic of this paper, but as e.g. Linell (1980) has pointed out this kind of hesitation phenomena as well as overt self-repair has to do with the planning of the discourse (see also Chafe 1980).

Example 4 is an example of a covert repair where the most common editing expression transcribed as 'eeh' is involved.

Example 4: Covert repair with an editing expression and the use of editing expressions in overt repairs in Swedish

å sen / eeh kast- eeh / försökte eeh gubben viska ti henne /
sen kasta bebisen en spade ...
and then / eeh thre- eeh / tried eeh the old man whisper to her /
(the old man tried to whisper to her)
then threw the baby a spade ...
(then the baby threw a spade ...)

There are three instances of 'eeh' in example 4. The first one is an example of a covert repair: we cannot deduce what the trouble was, but there clearly is some kind of trouble - the speaker interrupts himself and the interruption is followed by an editing term. The second 'eeh' also follows an interrupted item, but here it is a part of an overt D-repair, as can be seen from what follows. The third 'eeh' is also an example of a covert repair the source of it probably being the choice of the following lexical item (Sw. 'gubbe' vs. e.g. 'man'), although we cannot be sure about it.

'eeh' is the most common editing expression in the data, but by all means not he only one. 'or' (Fi. 'tai', Sw. 'eller') is common in A-repairs for all informants as well as 'no', and some of the informants make very frequent use of narrative formulas such as 'kind of' (Fi. 'niinku', Sw. 'liksom') and 'what is it called now' (Sw. 'va heter det').

2.3. Research Questions

The aim of the present pilot study was to try to describe the what and how of self-repair in the bilingual informants as compared to their monolingual agemates in both languages. To make it possible to compare the informants to each other in different languages the narratives were grouped together into six categories according to the model of tuition the pupils attended and the language the story was retold in. The model of tuition was chosen as a parameter, as one might expect differences in the dominance patterns of the bilinguals due to amount of exposure to Finnish and Swedish, respectively. The categories are as follows:

COFI = The monolingual Finnish control group (n=10)

SWFI = The bilingual pupils attending an ordinary Swedish class in Finnish (n=6)

HLFI = The bilingual pupils attending a Finnish Home-Language class in Finnish (n=20)

HLSW = The bilingual pupils attending a Finnish Home-Language class in Swedish (n=20)

SWSW = The bilingual pupils attending an ordinary Swedish class in Swedish (n=6)

COSW = The monolingual Swedish control group (n=10)

1. The first research question was whether there would be differences

between the groups in the type of repair. Levelt has argued that monitoring one's own speech is "context-sensitive, i.e. contextual factors determine which aspects of speech will be given most scrutiny by the speaker" (1989:463). As the informants in this study were all performing the same task under similar conditions there should be no major differences between the groups in the type of repair. On the other hand, this context-sensitivity might be overruled by differences in language proficiency and/or differences in how the different groups interpreted the situation. The bilinguals knew that it was their language that was being studied and the controls knew that they were "only" controls. This might have had an impact on the way they interpreted both the situation and the task.

2. The second research question was whether there would be differences in the number of repairs made by the different groups in different categories. The bilingual informants in this study are all at an advanced level of overall language proficiency in both languages, but some of them are clearly dominant in one or the other language. The hypothesis was that they will produce more errors in the weaker language, i.e. there would be more opportunities to repair. Karmiloff-Smith (1986) has argued, that there is a "developmental gap between usage, repairs and conscious access" to mental representations of linguistic items so that children are able to repair items they do not have conscious access to. She also argues that "verbal knowledge has an essential role to play, not in language acquisition, but in representational change in overall macrodevelopment" (1986:140). If the bilingual childrens' overall cognitive development is comparable with the monolinguals', there should be differences in the amount of error repairs between the groups so that the SW group should produce and repair more errors in their Finnish version and the HL group in their Swedish version.

3. The third research question was whether there would be differences in the organization of repair between the groups and the categories. Schegloff (1987) argues, basing his argument on comparisons of the organization of repair in different linguistic and cultural contexts, that the organization of repair is universal with minor variations due to variations in immediate context (domain). The aspect of repair organization chosen for comparison in this study was the Main Interruption Rule (cf. 2.2.2. above), which states that the speaker should stop the speech flow immediately upon detecting trouble. The overall question therefore, is to investigate, if there are any differences between the groups and/or categories in the way they conform to the Main Interruption Rule.

3. Results

3.1. Types of Repair

The types of repair that were identified and compared with each other in this study are: D-repair, A-repair, E-repair, covert repair involving editing expressions and covert repair involving repetition. It should be kept in mind, that editing expressions are also involved in the other types of repair; they are counted as covert repairs only when they alone indicate some trouble. There were totally 754 repairs in the 72 narratives (9169 running words) and only 1 of them was described as Other type of repair. The comparison is made between the relative proportion of types of repair of all repairs for the category. The distribution of different types of repair for all categories is shown in Table 1.

Table 1: Types of repair of all repairs

	COFI n=10	SWFI n=6	HLFI n=20	HLSW n=20	SWSW n=6	COSW n=10
D-REPAIR	5%	11%	10%	7%	10%	7%
A-REPAIR	30%	14%	19%	16%	16%	18%
E-REPAIR	14%	23%	22%	30%	23%	24%
EDITING	34%	37%	35%	26%	40%	42%
REPETITION	17%	15%	14%	21%	11%	9%

As the groups investigated are quite small, I will interpret the results of the pilot study as tentative rather than definite.

As can be seen from Table 1, covert repairs are the most common type of repair for all the groups, approximately half of the repairs are of this type. There seems to be a tendency to repeat more in Finnish than in Swedish. This holds for all the groups except for the HL group. The HL group has the least exposure to Swedish: they speak Finnish both at home and at school, and they even report speaking mostly Finnish during their leasure time. It is also the group where only a few of the pupils have a native-like control of Swedish compared to their monolingual agemates. If the difference between the languages in the use of covert repairs can be shown to depend on differences between the languages and/or cultures, the deviant

pattern for the HL group can be explained in terms of language proficiency or more precisely the dominance pattern between the languages.

The relatively high proportion of D-repairs (Levelt 1983 reports only 1% in a pattern description task involving adult native speakers of Dutch) is probably due to the task: the informants are retelling a story where the chronological ordering of the events is important.

There is an interesting difference between the monolingual control groups in the amount of A- and E-repais. The Finnish control group seems to pay more attention to the appropriateness of what they are saying whereas the Swedish control group is more keen on correcting errors. As already pointed out above, this might be due to differences in the interpretation of the task: making it a good story or giving the researchers "correct" linguistic materials. The difference might also be due to differences in schooling and/or culture, but this interpretation is not feasible considering the sample size. The bilinguals make more use of error repairs in both languages. Again, this might be due to the fact that the subjects are aware, that their language is under investigation, but the higher percentage for E-repairs for the HL group in Swedish might also indicate lower overall language proficiency.

3.2. The Number of Repairs

As the stories retold by the informants differ in length I have compared the number of repairs to the relative proportion of content words. The choice of content words as the standard of comparison instead of all words (all words are potential repairables) was made because of some extreme cases, where up to half of the words in the narrative consisted of repetitions of editing expressions and other lexical items.

Table 2 shows the relative share of repairs of content words for the different categories. The differences between the categories are relatively small, but the bilingual groups repair most in the language they from the outset were hypothesized to be less competent in, i.e. Finnish for the SW group and Swedish for the HL group. Of the overt repairs, 7% are repairs of errors for these two groups, a higher percentage than for the monolingual groups. They also have a higher percentage of covert repairs, i.e. hesitation phenomena, especially the SW group.

	COFI n=10	SWFI n=6	HLFI n=20	HFSW n=20	SWSW n=6	COSW n=10
D-REPAIR	1%	3%	2%	2%	2%	1%
A-REPAIR	7%	4%	4%	4%	3%	4%
E-REPAIR	3%	7%	4%	7%	5%	5%
COVERT	11%	16%	10%	12%	10%	10%
Total	22%	30%	20%	25%	20%	20%

Table 2 also shows the difference already discussed between the monolingual groups in the use of E- and A-repair.

3.3. The Structural Organization of Repair

The structural organization of repair is suggested to be universal (Schegloff 1987). The aspect of the structural organization of repair studied in this paper is the way the informants conform to the Main Interruption Rule as described in Levelt (1983). According to this rule, the speaker should stop the speech flow immediately upon detecting trouble with the exception of words, that are themselves correct. They should be completed before the interruption. The rule implies, that there should be a difference in where interruption occurs between error repairs on the one hand and mere modifications of the content, i.e. A- and D-repairs, on the other hand. In error repairs the interruption should occur within the erroneous word (cf. Levelt 1983, 1989 for the speed of monitoring and error detection), whereas in A- and D-repairs, where there is no erroneous word but an inappropriate word or way of putting things, the interruption should occur after a completion of a lexical item. In other words, as Levelt (1983) has put it: "Interrupting a word signals that that word is wrong."

All the groups studied in this pilot study show a preference for interruption in accordance with the Main Interruption Rule and in accordance with the exception to this rule with regard to non-erroneous words. I have, borrowing again from Levelt (1983), looked at whether the interruption follows the repaired item immediately or with a delay, and in both cases, whether the interruption occurs within a word or after the completion of a word. In 56 of totally 64 D-repairs (for all the groups) there is a delayed interruption after the completion of a word. The results for A- and E-repairs can be seen in Tables 3 and 4, where the first figure shows the proportion of the

Table 3 : Proportion of immediate and delayed interruption for all categories in A-repairs.

	A-REPAIR			
	Immediate		Delayed	
	Within-word	After-word	Within-word	After-word
COFI		68% (13)		32% (6)
SWFI	7% (1)	72% (10)	7% (1)	14% (2)
HLFI	5% (2)	55% (22)	5% (2)	35% (14)
HLSW	3% (1)	71% (22)		26% (10)
SWSW		82% (9)		18% (2)
COSW	8% (1)	69% (9)		23% (3)

Table 4 : Proportion of immediate and delayed interruption for all categories in E-repairs.

	E-REPAIR			
	Immediate		Delayed	
	Within-word	After-word	Within-word	After-word
COFI	67% (6)	22% (2)		11% (1)
SWFI	70% (16)	22% (5)	4% (1)	4% (1)
HLFI	62% (28)	33% (15)		5% (2)
HLSW	64% (46)	28% (20)	4% (3)	4% (3)
SWSW	56% (9)	25% (4)	6% (1)	13% (2)
COSW	71% (12)	29% (5)		

interruption type of all A-repairs and E-repairs, respectively, and the figure in parenthesis the actual number of interruptions for each group.

As can be seen from Tables 3 and 4, there is a strong preference to repair erroneous items immediately, the interruption occuring preferably within the erroneous word, whereas the interruption of the speechflow in the case of an inappropriate word occurs after the completion of the word, either immediately or with a delay. There was no clear difference between the groups in the length of the delay in A-repairs (about 4 syllables from the interruption to the first word of the repair in both languages).

3.4. Summary of the results

The aim of the present study was to describe how Finnish-Swedish bilingual schoolchildren produce self-repairs in a narrative discourse compared to monolingual agemates in three respects: 1) the types of repair, 2) the number of repairs and 3) the structural organization of repair. The results show, that there are no major differences between the groups in two of the respects investigated: all the informants use the same types of repair and they all conform to the Main Interruption Rule. The two bilingual groups had a higher proportion of error repairs and covert repairs in their weaker language.

4. Discussion

The study presented in this paper was a pilot study and despite the relatively large amount of data studied, the results should only be taken as prelimaries to a larger and more detailed study of repair patterns of bilingual children and adolescents. Levelt's (1989) claim of the context-sensitivity of monitoring, and thus self-repairing, is confirmed. The results also clearly support Schegloff's (1987) idea of the universality of the organization of repair. The discussion of the implications of the third finding of this study, i.e. that the bilingual children produce, not so suprisingly, more error repairs in their weaker language, I would like to postpone after a more detailed study of the individual repair patterns of the informants. The standard deviation for the groups in the amount of repairs ranges from 8.2 to 14.3 showing quite clearly, that a closer look at the individual patterns is needed. It is quite clear from the results of the present study, that, when speaking in a language the informants are not yet fully competent, they as a group produce more error repairs and covert repairs, but it is not clear, whether this is true of all the individuals in the groups. The study should, thus, aim at individual profiles of repair patterns in a developmental perspective. The study should also focus on a more detailed analysis of the types of repair, paying attention to what aspects of speech that are being repaired and also, which aspects are left unrepaired. According to Levelt (1983) about half of the controllable errors in his study were left unrepaired by native speakers.

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